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ANNEXURE.

Improvement in Paddy Cultivation in the Mysore Channel Tract,

NOTE BY MR. A. K. YEGNANARAYANA IYER.

Improvements in the cultivation of paddy in the Channel Tracts of the Mysore District where paddy is the crop of outstanding importance have consisted in the introduction of better varieties, of the use of artificial manures and the reduction in the seed rate. In regard to varieties, among the large number of varieties which were tested on the Nagenhalli Farm, the Coimbatore strains called Nos. 1 and 24 more especially the latter having been found to be high yielders of uniform growth and with a high milling percentage and a rice of especially choice kind, the two varieties have been slowly taken up by the raiyats all over the tract. At the present time, these two varieties may be said to be grown on hundreds of acres, and the Coimbatore sanna, the popular name given to the No. 24 has become a highly sought-after variety in the Mysore market. At seedling time, the variety is so greatly in demand that as much as Rs. 5 per candy is gladly paid over and above the rate for the local varieties. This is perhaps a unique instance of the rapidity with which work on a Government Farm has been taken advantage of by the tract which the Farm was expected to serve.

Equally outstanding is the use of artificial manures which is rapidly increasing in the Channel Tract. Time was, not many years ago, when the raiyats would not as much as look at a manure like oil-cakes, and the Department had great difficulty in disposing of the stocks of this manure which had been purchased with more optimism than the sequel showed to be correct. This was hardly ten years ago and now a thorough change has come about. At the present time not only is a large quantity, perhaps the whole of the production in Mysore City taken up by raiyats of their own accord but the manures of which they had not even heard, such as sulphate of ammonia and superphosphate, are beginning to be purchased in several tons. From small beginnings, the use has gone up so high that selling organisations of manure companies have opened several sale depots in the area. Messrs. Brunner Mond & Co., and Shaw Wallace & Co., are pushing the trade with great earnestness to which the raiyats too are responding. Besides, two central sale depots in Mysore City, there are two in Bannur, two in Yedatore, one in Kariahalli, not to speak of depots of Village Panchayets which is a feature of work in the Mysore District. Bherya, Tippur and Akkihebbal are three good examples and each has been handling from 4 to 5 tons per year. In addition there are private dealers who are also, in view of the prospective profits, slowly taking up the sale of these manures. To one who knows only the condition of ten years ago this transformation will appear almost unbelievable.

While on the subject of manures, the work on the popularisation of green manure in the Yedatore tract where it is in vogue, with the help of a special grant from the District Board for the sale of seed at concession rate must be referred to; likewise the scheme for the starting of plantations of honge trees throughout both in the present channel tract as also in Mandya and Malvalli, the future centres of paddy cultivation, has been making very noteworthy progress, and in a few years, a changed landscape will bear witness to the work. The economising of the seed rate by the expedient of planting fewer seedlings has also become a well established practice and has meant considerable saving in the aggregate.

As all these abovementioned lines of activity progress from year to year, we should to the same measure be greatly increasing the outturn of paddy in the tract lso the money return therefrom to the raiyat. The last named, *viz.*, the nlanting of honge trees would moreover be creating a permanent asset wer. It behoves us, as far as may be practicable, to take such measu speed up progress in all these directions. One serious circumstance which makes progress slow and even hinders it altogether is the fact that the raiyat, however much he may be anxious to use artificial manure does not possess the necessary ready money to purchase them when they are wanted and has, therefore, to go without it. Even the well-to-do raiyats are almost in the same boat with their poor brethren in this matter because the financing of the transplanting work in the busy time is about all that they could do, and as that operation is more important than the manuring, they let the latter suffer. How to afford them financial help or accommodation for a temporary period of say, six months is a problem which must be solved. Neither the Co-operative Societies nor village Panchayet can under present circumstances do much

though they are most excellent agencies for the purpose. Societies do not possess the funds and even if they did, they cannot serve anything more than a limited clientele, while the Village Panchayets which can serve a large number are quite unwilling to take up sale on credit with its attendant risks. It is a point for consideration whether a takkavi system where procedure would be as simple and quick as a Post Office transactions cannot be devised, so that this serious handicap may be remedied.

The next point in the improvement of paddy cultivation has reference to a more difficult aspect of farming. Not long ago, a series of newspaper articles were published by Mr. A. Galletti, I.C.S., a talented Madras Civilian Officer who attempted to explain the superiority of the Italian method of paddy cultivation over those in vogue in our country. His observations took into consideration with much accuracy and knowledge of detail, all our local circumstances in regard to Farm Economy and methods in general. He held up as a model the combination of animal husbandry, chiefly the keeping of milk cattle, with paddy farming. His chief point is that paddy should be rotated with fodder crops, land being temporarily laid down to pasture, and so on; going into detailed calculations, he contended that though there may be a reduction in the area under paddy, the system resulted in a high yield of paddy and a greater money return to the Farmer not to speak of the equally important consideration, *viz.*, better cattle, more milk and better health and all this with a lesser consumption of irrigation water. In view of the fact that the large expansion in paddy cultivation which is in prospect under the Irwin Canal and the Schemes intended to utilise to the full the Cauvery Water to which our State has been deemed entitled, is to be in a tract which is at present the home of our cattle breeding industry, this new idea assumes great importance. Our cattle industry which is unique and which brings in several lakhs of rupees annually into the State from outside is certainly not as prosperous as it might be, and if my impression is correct, it is distinctly on a downgrade. This combination of cattle rearing and paddy cultivation which is claimed to be advantageous to both will therefore meet our needs admirably if it should be only possible to effect this change in our methods. It is no doubt a change which may be difficult to bring about, but if we bring it about, it will mean according to this writer a most prosperous paddy tract valuable facilities and a great impetus to cattle raising and a more economical use of the water now being harnessed to irrigation at great cost. The need is, however, a closer study of this method on the spot, *i.e.*, in Italian paddy farms by a man with a good knowledge of our own local conditions in paddy cultivation and the rural economy in general of our new irrigation tract, and later the testing and demonstration of the methods on the Government Farm. The matter aroused great interest at the time of the publication of the articles in question judging by the correspondence in Press. I myself also corresponded with the writer to elucidate certain points, but without a close practical study of the matter it is not possible to make any recommendations along these lines. If the Conference agrees in considering that this matter merits action as suggested and recommend it, I am of opinion that another very useful step would have been taken in the improvement of paddy cultivation. Two suggestions are therefore submitted for consideration on this note, *viz.*, (1) a suitable simple scheme for the granting of short term takkavi loans for the purchase of paddy manure, and (2) the deputation of an officer for the study of the methods of paddy farming in Italy referred to.

Reviews the Report on the Administration of the Department of Geology for the year 1929-30.

READ—

Letter No. 5017-10, dated 20th September 1930, from the Director of Geology, submitting Administration Report of the Department of Geology for the year 1929-30.

ORDER NO. D. 5560-65—GEOL. 32-30-3, DATED 21ST NOVEMBER 1930.

Recorded.

I. ADMINISTRATION.

Mr. T. [illegible]mpathiengar, the Director, was in charge of the Department during the year, except for a period of 3 months from 1st April 1930 when he was on privilege leave and Mr. A. M. Sen officiated for him.

Government sanctioned the loan of the services of Mr. B. Rama Rao, Assistant Geologist, to the State of Baria in the Rewakantha Agency. The number of posts of Sub-Assistant Geologists was increased from 1 to 2 from 1st July 1929 and Mr. V. T. Venugopal (supernumerary) working in the Mysore Iron Works was absorbed in the cadre of the Department and seconded. One of the Assistant Geologists, Mr. B. N. Venkataramiah, B.A., retired on 16th February 1930 after a creditable record of nearly 23 years service. As in previous years, the main administrative work of the Department was connected with the working of the rules for the grant of certificates of approval, prospecting licenses and mining leases.

REVISION OF RULES.

Draft revised rules relating to prospecting licenses and mining leases for minerals other than gold, as also a set of new rules for the working of small mines framed by the Director of Geology in consultation with the Chief Inspector of Mines are under the consideration of Government. The uniform rate of royalty of ten annas per ton on all Manganese ores, irrespective of grade, which was in force from 1st April 1928 was ordered by Government to be continued until further orders.

A renewed mining lease for Chrome ore over the Pensamudra Block, Arsikere Taluk, was granted in March 1930 to the Mysore Chromite Ltd., for a further term of ten years.

MINING REVENUE.

Out of a total demand of Rs. 89,790-13-9 on account of mining revenue exclusive of the royalty on gold, a sum of Rs. 88,917-3-3 was realised leaving a balance of Rs. 873-10-6.

II. INSPECTIONS.

Most of the current prospecting license and mining lease areas were inspected by the Officers of the Department during the year, as also the Chrome Mining Operations at Byrapur and Tallur.

III. MINING AND PROSPECTING.

There were 21 certificates of approval, 43 mining leases and 18 prospecting and other licenses current during the year as against 34, 44 and 22 respectively in the previous year. The results of the working of the five gold mining companies on the Kolar Gold Field during the year were as follows:—

	1928-29. Actuals.	1929-30. Approximate.
	Ozs.	Ozs.
Total quantity of fine gold produced ..	368,592	327,000
	Rs.	Rs.
Value	2,08,99,390	1,86,25,508
Royalty due	11,46,806	10,21,394

As regards Manganese, there were 9 leases and 10 licenses current. The total output was 44,150 tons and the royalty recovered was Rs. 11,767-12-6. The market for this mineral continued to be full throughout the whole year with the result that many of the mines practically ceased operations. The United Steel Companies Ltd., of Shimoga, however, continued to do fairly good work on their mining and prospecting blocks, as they were able to find a market and use for low grade ores (30 per cent and below) for the removal of which certain concessions were granted to them by Government. The mining lease for chromite over the Pensamudra Block, Arsikere Taluk, which had expired towards the close of last year was renewed during this year. There was not much demand for this mineral. The output was 20,586 tons and the royalty recovered amounted to Rs. 16,096-9-10. The output of magnesite on the only block (Dodkanya) on which work was carried on was 1,275½ tons and the lessees paid a dead rent of Rs. 1,760 for the year and no royalty was levied.

The output of kaolin from the two blocks worked by the Kolar Brick-making Co., Ltd., was 3,273 tons. The entire quantity was removed from the block and the royalty paid was Rs. 2,628.

DEPARTMENTAL MINING.

The total output of chrome ore at the Byrapur Mine was 5,381 tons out of which only 750 tons were sold for a sum of Rs. 16,500. At Talur 850 tons of chromite out of 1,081 tons mined were sold for Rs. 17,000. The occurrence of chromite was noticed in a few other localities and some prospecting work done near Devanur in the Kadur Taluk. Only low grade ore was, however, found. Prospecting for galena and antimony ores near Chitaldrug was continued. About 24 tons of graphite were mined in the Bowringpet Taluk and supplied to the Mysore Iron Works for foundry purposes. The authorities of the Mysore Iron Works raised 42,949 tons of iron ore from the Kemmangundi Hills and 1,735 tons of silicious iron ore from deposits near Tanigebyle during the calendar year 1929 for their works at Bhadravati.

IV. GEOLOGICAL SURVEY.

(a) About 300 square miles were geologically surveyed in parts of Tarikere, Kadur and Arsikere Taluks. An area of about 25 square miles in the Chitaldrug District containing galena and antimony bearing rocks was surveyed and mapped in detail.

(b) *Practical Training.*—The students of the B.Sc., Honours Class of the Central College were given practical instruction in Geological Survey and prospecting methods at the Byrapur Mine.

(c) *Soil Survey.*—The soil survey of the lands under the Maddur Branch of the Irwin Canal was conducted in co-operation with the Department of Agriculture and an elaborate report on the same is to be published shortly.

V. ENGINEERING AND ALLIED ACTIVITIES.

Technical advice in connection with the Anjanapur Dam in the Shimoga District, the "Talparagis" (natural sources of irrigation) of the Tumkur District, and the Meruvanji Tank in the Channagiri Taluk and water supply questions was furnished by the department.

The Director again points out the necessity for keeping a systematic record of all geologic and economic information obtained during well-boring operations in order to secure reliable scientific data which will be of great use in similar undertakings in future. The Director of Industries and Commerce is requested to see that such a record is maintained and that the co-operation of Geological Department is enlisted as far as possible in well-boring and well-sinking operations.

VI. ECONOMIC INVESTIGATIONS.

(a) *Ferro-Chrome Experiments.*—It is reported that the preliminary experiments conducted in the manufacture of ferro-chrome met with a fair amount of success and that further trials are in progress.

(b) *Free Silica contents in Kolar Gold Field Rocks.*—Information regarding the free Silica contents in Kolar Gold Field rocks was furnished to the Government Mining Engineer, Department of Mines and Industries, Johannesburg, South Africa.

VII. CHEMICAL LABORATORY.

Government are glad to note that the new chemical laboratory attached to the department worked satisfactorily during the year and that the two chemists in charge thereof were kept fully engaged in analysing samples for Government departments and the public.

VIII. PUBLICATIONS.

A bulletin on the copper ore deposit of Ingladhal near Chitaldrug was published and an up-to-date compilation on the mineral resources of Mysore was completed and sent to the Press.

IX. CONCLUSION.

The work of the Department during the year was satisfactory and Government wish to record their appreciation of it.

B. NARAYANASWAMI IYENGAR,
Secretary to Government,
Development Departments.